REMARKS

The issues outstanding in the Office Action of June 10, 2009, are the objections to the claims and specification, and the rejections under 35 U.S.C. 103. Reconsideration of these issues, in view of the following discussion, is respectfully requested.

Specification Objections

The specification has been objected to as a result of the use of the British spelling of ionization. The specification has been corrected, and withdrawal of the rejection is respectfully requested.

Claim Objections

Claims 5 and 20 have been objected to. With respect to claim 5, the polydispersity has been specified in the claim, as recited at, for example, page 5, line 26 of the present application. With respect to claim 20, the British spelling has been corrected. Withdrawal of the objections is therefore respectfully requested.

Rejections Under 35 U.S.C. 103

Claims 1-11, 17, 18, 21, 23-26 and 28-30 have been rejected under 35 U.S.C. 102(b)/103 over Allen (WO '537). Reconsideration of this rejection is respectfully requested.

As noted at page 3 of the Office Action, Allen discloses a polymeric material useful as a charge transport material. However, the Applicants teach that a material can be used in "electroreprography and/or electroluminescence." Patentees prefer use of the polymers in electroreprography, see page 23, lines 30-31, and the vast majority of the disclosure in the application is to this utility. The application teaches, for example at page 10, lines 3-5, an enormous range of molecular weight for the polymers, represented by a number of repeating units of formula 1in which n can be 2 to 20,000. Patentees teach the lower portion of this range, for example, at page 13 indicating that the polymers of the invention comprise "at least three, more preferably at least four, more preferably at least six" repeating units, and indicating the

preference for values of 3 to about 500 at page 14, and 4 to about 200 also on that page. A careful look at the examples, moreover, teaches a strong preference towards lower molecular weight materials, at the bottom end of this range. For example, the application lists electronic properties of the materials of Formula 1 which show that materials of Formula 1, wherein m is greater than 31, have deteriorating performance with increasing m (page 71-72, Experiment 5). Note that the device fabricated to measure the electronic properties (i.e., in Experiment 5) was an "OPC", i.e. an Organic Photo Conductor (page 10, line 38), not an EL device. The application does not exemplify use of the polymer in an electroluminescent device.

At the outset, it is respectfully submitted that the disclosure of Allen does not anticipate the present application. In order to anticipate an application's claims, a disclosure must contain each element, each element of a claim, without the necessity to pick and choose from a variety of combinations. See, for example, *In re Sivaramakrishnan*, 673 F.2d 1382, 213 USPQ 441 (CCPA 1982). The Allen application discloses repeating units of polymer of an enormous variation, i.e., between 2 and 20,000. Moreover, the application discloses both electroreprographic devices, and electroluminescent devices. There is no example which shows, in an electroluminescent device, the use of polymers having repeating units of 35 or more. Moreover, the preferred disclosure of the application is equally broad, for example, "at least three, more preferably at least four, more preferably at least six" repeating units, with ranges of 3 to 500 and 4 to 200 being given at pages 13 and 14. Thus, it is clear that the disclosure falls short of anticipating the present claims, which require repeating units of at least 35, in an EL device. Thus, it is submitted that the portion of the rejection under 35 U.S.C. 102 should be withdrawn.

Moreover, the data presented by Experiment 5 in Allen thus strongly deters one skilled in the art from using materials of Formula 1 wherein m is at least 35 in any device, much less an EL device, due to deteriorating electronic properties. In particular, Allen concludes that their data show application performance improving with molecular weight (m) until a plateau is reached over the range of 24 to 31. The Applicants conclude that for "m values above 31 there is a deterioration of performance which becomes very abrupt when m reaches 42." The Applicants conclude that this "illustrates the desirability of being able to readily control the m value", e.g., by limiting molecular weight.

By contrast, the use of materials of Formula 1 wherein m is at least 35 in an EL device actually and unexpectedly results in substantial improvements mentioned above.

It has surprisingly been found that the material of Formula 1, wherein m is at least 35, is especially effective for improving the overall EL device performance. For instance, EL devices fabricated using the material of Formula 1 wherein m is at least 35 have been found to have improved luminescence efficiency and to operate with lower drive voltages. Due to the ability to work with lower drive voltages, the material of Formula 1 can also be used as a relatively thick layer which, in turn, leads to further advantages including improved device reliability, less breakdown and improved device lifetime.

In view of this strong teaching away from higher molecular weights in electroreprographic devices, it is not seen that one of ordinary skill in the art would be directed to such higher molecular weight materials as claimed, for electroluminescent devices. However, the unexpected advantages detailed above, in fact, thus establish the unexpected nature of the presently claimed invention.

As further evidence of the unexpected advantage, attention is directed to data filed in European prosecution of the present application. An experimental report is enclosed which shows the unexpected advantage of the invention, including improved device efficiency and reduced drive voltage. The report compares devices made according to the invention with devices made using materials of Formula 1 wherein m is less than 35. In more detail, the Report compares the performance of EL devices which have an organic hole injection layer of a material of Formula 1 with varying m values: m = 1, m = 3, m = 25 (all non-inventive) and m = 45 (inventive).

Two samples of device were made: Sample (1) using an electroluminescent material (EML) layer or S-DPVBi and Sample (2) using an EML layer of $Ir(piq)_3$ in CBP. Details of the device fabrication, which is conventional and within the skills of the person ordinarily skilled in the art is provided with the Report. In both cases (i.e., Sample (1) and Sample (2)), it can be seen that the inventive samples made using a material of Formula 1 where m = 45 are considerably improved in terms of having a higher efficiency (i.e. cd/A value) and lower drive voltage (V @ $100cd/m^2$) compared to the samples made using material of Formula 1 wherein m = 25 and also

the samples where m = 1 or 3. Accordingly, it is submitted that this further establishes the non-obviousness of the present invention.

Claims 12-16, 19, 20, 22 and 27 have also been rejected under 35 U.S.C. 103 over Allen taken with Buechel. Reconsideration of this rejection is also respectfully requested. Buechel is cited in order to provide a disclosure of layer thicknesses, and particular layer structures. However, Buechel does nothing to remedy the deficiencies of Allen, in that it does not suggest molecular weights for the Allen materials within the scope of the present claims, as discussed above. Accordingly, withdrawal of this rejection is also respectfully requested.

The claims of the application are submitted to be in condition for allowance. However, if the Examiner has any questions or comments, he is cordially invited to telephone the undersigned at the number below.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,

/Harry B. Shubin/

Harry B. Shubin, Reg. No. 32,004
Attorney/Agent for Applicant(s)

MILLEN, WHITE, ZELANO
& BRANIGAN, P.C.
Arlington Courthouse Plaza 1, Suite 1400
2200 Clarendon Boulevard
Arlington, Virginia 22201
Telephone: (703) 243-6333
Facsimile: (703) 243-6410

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